AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

Claims 1-27 (Canceled)

28. (New) Method for the production of acrylic acid from propane, in which a gaseous mixture comprising propane, molecular oxygen, water vapour, and optionally an inert gas is passed over a catalyst with the formula (I):

$$Mo_1V_aTe_bNb_cSi_dO_x \text{ (I)}$$

in which:

-a is comprised between 0.006 and 1, inclusive;

-b is comprised between 0.006 and 1, inclusive;

-c is comprised between 0.006 and 1, inclusive;

-d is comprised between 0 and 3.5, inclusive; and

-x is the quantity of oxygen bound to the other elements and depends on their oxidation state,

in order to oxidize the propane to acrylic acid, wherein the molar ratio propane/molecular oxygen in the initial gaseous mixture is greater than or equal to 0.5.

29. (New) Method according to claim 28, in which the molar proportions of the constituents of the initial gaseous mixture are as follows:

propane/O_2/inert gas/H_2O (vapour) = 1/0.05-2/1-10/1-10.

30. (New) Method according to claim 28, in which the molar proportions of the constituents of the initial gaseous mixture are as follows:

propane/O_2/inert gas/H_2O (vapour) = 1/0.1-1/1-5/1-5.

31. (New) Method according to claim 28, in which, in the catalyst of formula (I):

-a is comprised between 0.09 and 0.8, inclusive;

-b is comprised between 0.04 and 0.6, inclusive;

-c is comprised between 0.01 and 0.4, inclusive; and

-d is comprised between 0.4 and 1.6, inclusive.

32. (New) Method according to claim 28, wherein the oxidation reactions are carried out at a temperature of 200 to 500°C.

33. (New) Method according to claim 28, wherein the oxidation reactions are carried out at a temperature of 250 to 450°C.

34. (New) Method according to claim 28, wherein the oxidation reactions are carried out at a pressure of 1.01×10^4 to 1.01×10^6 Pa (0.1 to 10 atmospheres).

35. (New) Method according to claim 28, wherein the oxidation reactions are carried out at a pressure of 5.05×10^4 to 5.05×10^5 Pa (0.5-5 atmospheres).

36. (New) Method according to claim 28, which is used until there is a reduction ratio of the catalyst comprised between 0.1 and 10 g of oxygen per kg of catalyst.

37. (New) Method according to claim 28, wherein once the catalyst has at least partially changed to the reduced state, its regeneration is carried out according to reaction (3):

$SOLID_{reduced} + O_2 \rightarrow SOLID_{oxidized}$ (3)

by heating in the presence of oxygen or a gas containing oxygen at a temperature of 250 to 500°C, for a period necessary for the reoxidation of the catalyst.

38. (New) Method according to claim 37, wherein the oxidation and the regeneration (3) reactions are carried out in a device with two stages, namely a reactor and a regenerator which operate simultaneously and in which two catalyst loads alternate periodically.

39. (New) Method according to claim 37, wherein the oxidation and the regeneration (3) reactions are carried out in the same reactor alternating the periods of reaction and regeneration.

40. (New) Method according to claim 37, wherein the oxidation and the regeneration (3) reactions are carried out in a reactor with a moving bed.

41. (New) Method according to claim 28, in which:

a) the initial gaseous mixture is introduced into a first reactor with a moving catalyst bed,

b) at the outlet of the first reactor, the gases are separated from the catalyst;

c) the catalyst is returned into a regenerator;

d) the gases are introduced into a second reactor with a moving catalyst bed;

e) at the outlet of the second reactor, the gases are separated from the catalyst and the acrylic acid contained in the separated gases is recovered;

f) the catalyst is returned into the regenerator; and

g) the regenerated catalyst from the regenerator is reintroduced into the first and second reactors.

42. (New) Method according to claim 41, in which the first and second reactors are vertical and the catalyst is moved upwards by the gas flow.

43. (New) Method according to claim 28, wherein the oxidation reactions are carried out with a residence time of 0.01 to 90 seconds in each reactor.

44. (New) Method according to claim 28, wherein the oxidation reactions are carried out with a residence time of 0.1 to 30 seconds in each reactor.

45. (New) Method according to claim 28, wherein the propylene produced or the propane which has not reacted or both are recycled to the inlet of the reactor , or if there are several reactors, to the inlet of the first reactor.

46. (New) Method according to claim 28, in which the reactor, or when there are several reactors, at least one of the reactors, also comprises a cocatalyst corresponding to the following formula (II):

$$Mo_1Bi_{a'}Fe_{b'}Co_{c'}Ni_{d'}K_{e'}Sb_{f'}Ti_{g'}Si_{h'}Ca_{i'}Nb_{j'}Te_{k'}Pb_{l'}W_{m'}Cu_{n'} \quad (II)$$

in which:

-a' is comprised between 0.006 and 1, inclusive

-b' is comprised between 0 and 3.5, inclusive;

-c' is comprised between 0 and 3.5, inclusive;

-d' is comprised between 0 and 3.5, inclusive;

-e' is comprised between 0 and 1, inclusive;

-f' is comprised between 0 and 1, inclusive;

-g' is comprised between 0 and 1, inclusive;

-h' is comprised between 0 and 3.5, inclusive;

-i' is comprised between 0 and 1, inclusive;

-j' is comprised between 0 and 1, inclusive;

-k' is comprised between 0 and 1, inclusive;

-l' is comprised between 0 and 1, inclusive;

-m' is comprised between 0 and 1, inclusive; and

-n' is comprised between 0 and 1, inclusive.

47. (New) Method according to claim 46, in which the cocatalyst is regenerated and circulates, if appropriate, in the same way as the catalyst.

48. (New) Method according to claim 46, in which, in the cocatalyst of formula (II):

-a' is comprised between 0.01 and 0.4, inclusive;

-b' is comprised between 0.2 and 1.6, inclusive;

-c' is comprised between 0.3 and 1.6, inclusive;

-d' is comprised between 0.1 and 0.6, inclusive;

-e' is comprised between 0.006 and 0.01, inclusive;

-f' is comprised between 0 and 0.4, inclusive;

-g' is comprised between 0 and 0.4, inclusive;

-h' is comprised between 0.01 and 1.6, inclusive

-i' is comprised between 0 and 0.4, inclusive;

-j' is comprised between 0 and 0.4, inclusive;

-k' is comprised between 0 and 0.4, inclusive;

-l' is comprised between 0 and 0.4, inclusive;

-m' is comprised between 0 and 0.4, inclusive; and

-n' is comprised between 0 and 0.4, inclusive.

49. (New) Method according to claim 46, in which, a weight ratio of the catalyst to the cocatalyst greater than 0.5 is used.

50. (New) Method according to claim 46, in which, a weight ratio of the catalyst to the cocatalyst of at least 1 is used.

51. (New) Method according to claim 46, in which the catalyst and the cocatalyst are mixed.

52. (New) Method according to claim 46, in which the catalyst and the cocatalyst are present in the form of pellets, each pellet comprising both the catalyst and the cocatalyst.

53. (New) Method according to claim 28, comprising the repetition, in a reactor provided with the catalyst of formula (I) defined in claim 28, and if appropriate, the cocatalyst of formula (II) defined in claim 46, of the cycle comprising the following successive stages:

1) a stage of injection of the gaseous mixture as defined in claim 28;

2) a stage of injection of water vapour and, if appropriate, inert gas;

3) a stage of injection of a mixture of molecular oxygen, water vapour and, if appropriate, inert gas; and

4) a stage of injection of water vapour and, if appropriate, inert gas.

54. (New) Method according to claim 53, wherein the cycle comprises an additional stage which precedes or follows stage 1) and during which a gaseous mixture corresponding to that of stage 1) but without molecular oxygen is injected, the molar ratio propane/molecular oxygen then being calculated globally for stage 1) and this additional stage.

55. (New) Method according to claim 54, wherein the additional stage precedes stage I) in the cycle.

56. (New) Method according to claim 54, wherein the reactor is a reactor with a moving bed.

57. (New) Method for the production of acrylic acid from propane, in which a gaseous mixture comprising propane, molecular oxygen, water vapour, and optionally an inert gas is passed over a catalyst with the formula (I):

$$Mo_lV_aTe_bNb_cSi_dO_x \text{ (I)}$$

in which:

-a is comprised between 0.006 and 1, inclusive;

-b is comprised between 0.006 and 1, inclusive;

-c is comprised between 0.006 and 1, inclusive;

-d is comprised between 0 and 3.5, inclusive; and

-x is the quantity of oxygen bound to the other elements and depends on their oxidation state,

in order to oxidize the propane to acrylic acid, wherein the molar ratio propane/molecular oxygen in the initial gaseous mixture is greater than or equal to 0.5, and in which

a) the initial gaseous mixture is introduced into a first reactor with a moving catalyst bed,

b) at the outlet of the first reactor, the gases are separated from the catalyst;

c) the catalyst is returned into a regenerator;

d) the gases are introduced into a second reactor with a moving catalyst bed;

e) at the outlet of the second reactor, the gases are separated from the catalyst and the acrylic acid contained in the separated gases is recovered;

f) the catalyst is returned into the regenerator; and

g) the regenerated catalyst from the regenerator is reintroduced into the first and second reactors.

58. (New) Method according to claim 57, in which the molar proportions of the constituents of the initial gaseous mixture are as follows:

propane/O_2/inert gas/H_2O (vapour) = 1/0.05-2/1-10/1-10.

59. (New) Method according to claim 57, in which, in the catalyst of formula (I):

-a is comprised between 0.09 and 0.8, inclusive;

-b is comprised between 0.04 and 0.6, inclusive;

-c is comprised between 0.01 and 0.4, inclusive; and

-d is comprised between 0.4 and 1.6, inclusive.

60. (New) Method for the production of acrylic acid from propane, in which a gaseous mixture comprising propane, molecular oxygen, water vapour, and optionally an inert gas is passed over a catalyst with the formula (I):

$$Mo_lV_aTe_bNb_cSi_dO_x \text{ (I)}$$

in which:

-a is comprised between 0.006 and 1, inclusive;

-b is comprised between 0.006 and 1, inclusive;

-c is comprised between 0.006 and 1, inclusive;

-d is comprised between 0 and 3.5, inclusive; and

-x is the quantity of oxygen bound to the other elements and depends on their oxidation state,

in order to oxidize the propane to acrylic acid, wherein the molar ratio propane/molecular oxygen in the initial gaseous mixture is greater than or equal to 0.5,

comprising the repetition, in a reactor provided with the catalyst of formula (I) defined above, of the cycle comprising the following successive stages:

1) a stage of injection of the gaseous mixture as defined above;

2) a stage of injection of water vapour and, if appropriate, inert gas;

3) a stage of injection of a mixture of molecular oxygen, water vapour and, if appropriate, inert gas; and

4) a stage of injection of water vapour and, if appropriate, inert gas.

61. (New) Method according to claim 60, in which, in the catalyst of formula (I):

-a is comprised between 0.09 and 0.8, inclusive;

-b is comprised between 0.04 and 0.6, inclusive;

-c is comprised between 0.01 and 0.4, inclusive; and

-d is comprised between 0.4 and 1.6, inclusive.

62. (New) Method according to claim 60, wherein the cycle comprises an additional stage which precedes or follows stage 1) and during which a gaseous mixture corresponding to that of stage 1) but without molecular oxygen is injected, the molar ratio propane/molecular oxygen then being calculated globally for stage 1) and this additional stage.

63. (New) Method according to claim 62, wherein the additional stage precedes stage I) in the cycle.